

KOMPUTER APLIKASI IT II (Information Technology)

2 SKS | Semester 1

Pertemuan 7

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✓ OBJECT JAVASCRIPT

- **Objek Array (Array Object)**
- **Objek Tanggal (Date Object)**
- **Objek Math**



OBJECT ARRAY



- Array merupakan variabel yang dapat menyimpan banyak data. Dengan kata lain, array dapat disebut sebagai variabel jamak. Berbeda dengan variabel tunggal dimana hanya dapat menyimpan satu data saja.
- Array dapat kita bayangkan sebagai sebuah lemari yang terdapat laci-laci di dalamnya. Setiap laci diberi nomor yang berbeda. Di dalam laci-laci tersebut masing-masing berisi satu benda. Laci-laci tersebut dapat dianalogikan sebagai variabel, sedangkan isi dari laci tersebut dianalogikan sebagai data. Sehingga ketika kita akan mencari suatu benda, cukup menyebutkan laci nomor berapa dari lemari tersebut



OBJECT ARRAY



Untuk membuat suatu array, terdapat beberapa cara penulisan yang dapat digunakan di dalam **JavaScript**, yaitu :

1. new Array()

Perintah

```
var nama_variabel = new Array ();
```

Contoh

```
var array1 = new Array();  
var      kota      =      new  
Array("Bandung", "Jakarta", "Bogor");
```

2. Literal

Perintah

```
var nama_variabel = [];
```

Contoh

```
var bilangan = [1,2,3,4,5];
```



OBJECT ARRAY



Type of array :

1. Array Numeric
2. Array Assosiatif

File Name : excercise-6.html

```
<HTML>
<HEAD>
<TITLE>Array, Date, Math, String, Document and Window Object</TITLE>
</HEAD>
<BODY>
<SCRIPT LANGUAGE = "JavaScript">
  <!--Array Object (numeric)-->
  function objArrayNum() {
    nama = new Array("Dian",
                     "Andri",
                     "Irawan")
    document.write(nama[2]);
  }

  objArrayNum();
</SCRIPT>
</BODY>
</HTML>
```

Array Numeric



OBJECT ARRAY



At the **exercise-6.html** file, add the following script :

```
<!--Array Object (Asosiatif)-->
function objArrayAs () {
    nama = new Array
    nama ['first'] = "dian"
    nama ['second'] = "Andri"
    nama ['third'] = "Irwan"
    document.write (nama [2]) ;
}
```





DATE OBJECT

Objek Date merupakan objek yang memungkinkan untuk membuat dan memanipulasi tanggal dan juga waktu. Berikut method yang dimiliki oleh objek Date. Deklarasinya :

```
Var date = new Date()
```

Method	Function
getDate()	To Generate Date (integer) from 1 – 31.
getDay()	To Generate Day(integer) from 0-6. Sunday = 0, monday = 1,.....
getMonth()	To Generate month(integer) From 0-11. January=0, Feb=1,.....
getFullYear()	To Generate Year To be 4 digits
getHours()	To Generate hour from 0-23
getMinutes()	To Generate minute from 0-59
getSeconds()	To Generate seconds from 0-59



DATE OBJECT



At the **exercise-6.html** file, add the following script :

```
<!-- Date Object-->  
var today      = new Date();  
document.write(today);
```

OUTPUT

Wed May 21 2014 19:07:46 GMT+0700 (SE Asia Standard Time)





DATE OBJECT

At the **exercise-6.html** file, add the following script :


```
<!-- Date Object-->
//var today      = new Date();
//document.write("<br>" + today);
var arrDate      = new Array("Senin", "Selasa", "Rabu", "Kamis",
                             "Jumat", "Sabtu", "Minggu");
var arrMonth     = new Array("Januari", "Februari", "Maret", "April",
                             "Mei", "Juni", "Juli", "Agustus",
                             "September", "Oktober", "November", "Desember");

var t            = new Date();
var today       = arrDate[t.getDay()-1];
var date        = t.getDate();
var month       = arrMonth[t.getMonth()];
var tahun       = t.getFullYear();
var hours       = t.getHours();
var minutes     = t.getMinutes();
var seconds     = t.getSeconds();
document.write("<hr width=700>");
document.write("<font size=5 face=arial>");
document.write("<b><center>day :"+today+", date : "+ date + " "+ month + " " + tahun);
document.write("</font>");
document.write("<font size=3 face=arial>");
document.write("<b><center>hours = "+ hours + ":"+ minutes + ":"+ seconds);
document.write("</font>");
```



MATH OBJECT



Objek Math merupakan objek yang digunakan untuk memanipulasi perhitungan matematika yang rumit seperti trigonometry, aljabar dan lain-lain. Deklarasi : 

Format : **Math.metode(nilai)**

Method	Description
<u>abs(x)</u>	Returns the absolute value of x
<u>acos(x)</u>	Returns the arccosine of x, in radians
<u>asin(x)</u>	Returns the arcsine of x, in radians
<u>atan(x)</u>	Returns the arctangent of x as a numeric value between -PI/2 and PI/2 radians
<u>atan2(y,x)</u>	Returns the arctangent of the quotient of its arguments
<u>ceil(x)</u>	Returns x, rounded upwards to the nearest integer
<u>cos(x)</u>	Returns the cosine of x (x is in radians)
<u>exp(x)</u>	Returns the value of E^x
<u>floor(x)</u>	Returns x, rounded downwards to the nearest integer
<u>log(x)</u>	Returns the natural logarithm (base E) of x
<u>max(x,y,z,...,n)</u>	Returns the number with the highest value
<u>min(x,y,z,...,n)</u>	Returns the number with the lowest value
<u>pow(x,y)</u>	Returns the value of x to the power of y
<u>random()</u>	Returns a random number between 0 and 1
<u>round(x)</u>	Rounds x to the nearest integer



MATH OBJECT



At the **exercise-6.html** file, add the following script :

```
<!-- Math Object-->
var a=10;
var b=5;
compare = Math.max(a,b);
document.write("among " + a + " and "+ b +", bigger = "+compare+"<br>");

rate =Math.pow(b,a);
document.write(b+ " rank "+ a +" is "+rate+"<br>");
```



EXERCISE



1. Create a program with javascript to pop up alerts / marquee Good Morning, Good Afternoon and Good Evening. According to the time stamp on the computer!!

Good Moring : 5 > 10 a clock
Good Afternon : 11 > 14 a clock
Good Evening : 15 > 19 a clock

2. Create a program to calculate / find the roots of an equation $F(x) = ax^2 + bx + c$
Formula to find the roots x_1 and x_2 is:



~ TERIMA KASIH ~